

Don't dig ditches — plow pipe into place



*Vibratory plow installing irrigation system at Mesa (Ariz.) Country Club.
Pipe and wire go in the ground at the same time.*

The installation of golf course irrigation systems is a highly specialized operation which requires specialized construction techniques. Robert McCallum of Phoenix, Ariz., has developed a method that has proved highly effective on some of the west's most prestigious courses.

McCallum installs almost all laterals with vibratory plowing equipment which permits his crews to put in both plastic pipe and control wiring without having to dig trench.

"Pulling it in with a vibratory plow is best for everyone," says McCallum. "It doesn't tear up established turf, it doesn't require costly restoration, and it doesn't stop play on the course."

"On conversions (putting a new irrigation system in on an established course), we have never closed a hole during work!"

How it's done

McCallum uses two Ditch Witch vibratory plows: a 37-horsepower class R40 and a 65-horsepower class

R65. The vibratory plow component is a mechanically driven shaker box with a blade which cuts through the soil. A small starting hole is dug, the pipe is attached to the plow's blade, and it is pulled into the ground. The surface damage usually is only a small slit.

"We assemble a section of pipe, dig holes for the beginning and end of the pull and for the sprinkler heads, pull in the pipe, insert the fittings, and move on to the next section," McCallum explains.

Most pulls range from 200 to 300 feet, although McCallum has made pulls of more than 500 feet. Little or no restoration is needed.

"In tight, rough soil we run back over the slit," says McCallum. "But in 80 percent of our pulls, we don't have to do anything."

Another plus for plowing, McCallum has found, is the lack of settlement.

"If you trench the work, the fill usually settles and the course ends up

looking like a checker board. There is no settlement with plowing."

McCallum has been able to plow through a wide range of soils, including rocky conditions.

"We try to plow 100 percent of the laterals. We usually end up having to trench a small portion of the total, depending on what we get into. Mains are trenched because of the larger diameter pipe."

Most of the laterals are plowed in at an average depth of 16 inches; some are as deep as 24 and 28 inches. Laterals range from 1¼ to 2½ inches with most being 1½ by 1¼ inches in diameter.

Experience and concern

McCallum has been involved in the irrigation business since the late 1950's, with golf course irrigation experience on more than 50 courses. The vibratory plowing technique has been used on many of these, including such well-known courses as Los Angeles' Bel Air Country Club, Mountain Shadows Golf Resort in Scottsdale, Ariz., and the recently completed Mesa (Ariz.) Country Club course where the photos accompanying this article were taken. McCallum presently is completing a new irrigation in-

stallation at the Arizona Biltmore Estates Golf Course in Phoenix.

The Mesa course included 125,000 feet of plowed laterals and 486,000 feet of control wiring.

The 9-hole Arizona Biltmore project will comprise 35,000 feet of plowed laterals and 210,000 feet of control wiring.

McCallum started in the business

with his father as Automatic Irrigation Co., Costa Mesa, Calif. He is now in business for himself, operating in Arizona and California.

"Our theory is to do the job right the first time and not have to go back," said McCallum. "There's not a job I've ever done that I can't go back to and get a handshake from the superintendent." □



Pipe is attached to vibratory plow blade with pulling grip.



Supply of control wire is carried on a specially made bracket mounted on the front of the vehicle.